disposal, but also for making all the necessary arrangements, and supplying all necessary aid. Also for the exact execution of this work to Mr. J. P. Edwards, his able and active assistant.

(3) To H. Carlisle, Esq., and C. Stacey, Esq., the superintendents at Durban and Aden, not only for the efficient aid they rendered, but for their kindly hospitality to all engaged in the work.

(4) To H. McEwen and A. W. Prosser, Esq., members of the telegraph staff at Durban and Aden respectively, for the active share which they took in the work, for the intelligent interest which they displayed, and for the great enhancement of its value which resulted from their labours of love.

Elliptic Elements of Comet b, 1882. By John Tatlock, Jun.

(Communicated by Prof. T. H. Safford.)

The present orbit is communicated as of possible interest, in comparison with the orbits of Dr. Kreutz and Prof. Frisby, with regard to the indications of the motion of the comet after it had passed perihelion. It was arranged for computation before Dr. Kreutz's elements, contained in No. 2482 of the *Astron. Nach.*, came to hand, as the copy of that number intended for this institution was lost in the "Cimbria." Had I seen his orbit sooner I should have made some changes in the dates of the places from which my orbit was computed. As it is, however, the date of my third place is 76 days later than the date of Dr. Kreutz's third place, and 66 days later than that of Prof. Frisby's. This fact will probably account for some of the discrepancies between the orbits of the above-named gentlemen and my own.

The elements are as follows, the computation being made by Gauss' method, as given in the *Theoria Motus*:—

Comet b, 1882.

T	=	Sept. 17·14302	
Log. q	=	7·9164079	
ω	=	70° 2′ 23·16″	Mean Equinox 1882·0
Ω	=	346 18 30·45	
i	=	142 3 28·22	
ϕ	=	89 20 18·35	
a	=	123·75	
e	=	·9999332	
P	=	1376·6 years.	

These elements result from the following normal places :—

Mean Equinox 1882·0.

G.M.T.	α	δ	No. of Obs.
	h m s s	° ′ ″ ″	
1882, Oct. 8·0	10 29 22·76 ± 0·140	−10 15 48·7 ± 4·06	21
Nov. 24·0	9 8 32·92 ± 0·237	−27 7 2·9 ± 1·22	16
1883, Jan. 29·0	6 13 34·56 ± 0·241	−22 54 19·5 ± 2·22	16

The probable errors given above are only approximate, as the changes which took place in the nucleus and the different parts of the same used by different observers would preclude any definite determination of their values.

Field Memorial Observatory of Williams College,
Williamstown, Mass., U.S.A.

Astrophysical Observations made during the Year 1882 *at the Herény Observatory, Hungary.* By Eugen de Gothard.

(*Communicated by Dr. N. de Konkoly.*)

Spectroscopic Observations.

In the year 1882 the spectra of 147 fixed stars and of two comets have been observed; the former with a small Zöllner ocular spectroscope, with one set of three prisms and a cylindrical lens; the latter with the same apparatus with a slit, the cylindrical lens being omitted.

On the appearance of the great September comet I endeavoured to perfect the instrument afterwards used for observing faint spectra. It consists of a Merz half-prism, movable by a fine micrometer screw; a bright line formed by a narrow slit in the focus of a small lens serves as an index. The table giving the motion of the micrometer screw in wave-lengths was constructed by a graphical method, from observations of nineteen known lines in the solar spectrum, made onNovember 6.

Out of the 147 stars mentioned above, the details are given only of 43 stars not included in Secchi's Catalogue.